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CLAIMS

That which is claimed is:

1. A balloon catheter comprising:

a catheter body comprising at least one tubular member

5 having a tubular wall and having a lumen extending throughout the length of the tubular member, said tubular member further having a proximal end and a distal end;

an inflatable balloon having a main body portion, a proximal portion, and a distal portion, said proximal portion and said distal portion extending from said main body portion, said distal portion of the balloon being bonded to the tubular member near the distal end of the tubular member and said proximal portion of the balloon being bonded to the tubular member proximal to the distal portion of the balloon, said inflatable balloon being formed from a gas-permeable material;

15 a coupling member having a lumen extending therethrough, said coupling member being mounted on the proximal end of the tubular member and the lumen of the coupling member communicating with the lumen of the tubular member;

20 a syringe coupled to said coupling member for applying a liquid within the lumen of the tubular member; and,

at least one aperture for purging air from said lumen of the catheter body, said aperture extending radially through said wall of the tubular member at a point proximal to the proximal

portion of the inflatable balloon.

2. A balloon catheter as defined in Claim 1, wherein said aperture is circular and has a diameter between approximately 5 .0005 inches and .0014 inches.

3. A balloon catheter as defined in Claim 2, wherein said aperture is circular and has a diameter of approximately 0.0010 inches.

4. A balloon catheter as defined in Claim 2, wherein said liquid applied within the lumen of the tubular member exerts a fluid pressure between about 20 psi and 45 psi and thereby causes air to pass through the aperture.

5. A balloon catheter as defined in Claim 4, wherein said inflatable balloon is placed within a protective tube thereby restricting the ability of the balloon to inflate.

6. A balloon catheter comprising:  
a catheter body including an outer tubular member having a tubular wall and having a lumen extending throughout the length of the outer tubular member, said outer tubular member further having a proximal end and a distal end;

said catheter body further including an inner tubular member having a proximal end, a distal end, and a lumen extending therethrough, said inner tubular member being disposed coaxially through said lumen of the outer tubular member;

an inflatable balloon having a main body portion, a proximal portion, and a distal portion, said proximal portion and said distal portion extending from said main body portion, said proximal portion of the balloon being bonded to the distal end of the outer tubular member and the distal portion of the balloon being bonded to the distal end of the inner tubular member, said inflatable balloon being formed from a gas-permeable material;

a coupling member having a lumen extending therethrough, said coupling member being mounted on the proximal end of the outer tubular member and the lumen of the coupling member communicating with the lumen between the outer tubular member and the inner tubular member;

a syringe coupled to said coupling member for applying a liquid within the lumen of the outer tubular member; and,

at least one aperture for purging air from said lumen of the catheter body, said aperture extending radially through said wall of the outer tubular member at a point proximal to the proximal end of the inflatable balloon.

7. A balloon catheter as defined in Claim 6, wherein said aperture is circular and has a diameter between approximately .0005 inches and .0014 inches.

5 8. A balloon catheter as defined in Claim 7, wherein said aperture is circular and has a diameter of approximately 0.0010 inches.

Sub 9. A balloon catheter as defined in Claim 7, wherein said liquid applied within the lumen of the outer tubular member exerts a fluid pressure between about 20 psi and 45 psi and thereby causes air to pass through the aperture.

10. A balloon catheter as defined in Claim 9, wherein said inflatable balloon is placed within a protective tube thereby restricting the ability of the balloon to inflate.

Sub 11. A balloon catheter comprising:

a catheter body comprising at least one tubular member

20 having a tubular wall and having a lumen extending throughout the length of the tubular member, said tubular member further having a proximal end and a distal end;

an inflatable balloon having a main body portion, a proximal portion, and a distal portion, said proximal portion

and said distal portion extending from said main body portion,  
said distal portion of the balloon being bonded to the tubular  
member near the distal end of the tubular member and said  
proximal portion of the balloon being bonded to the tubular  
5 member proximal to the distal portion of the balloon;

a coupling member having a lumen extending therethrough,  
said coupling member being mounted on the proximal end of the  
tubular member and the lumen of the coupling member  
communicating with the lumen of the tubular member such that a  
10 liquid may be applied within the lumen of the tubular member;  
and,

at least one aperture for purging air from said lumen of  
the catheter body, said aperture extending radially through said  
wall of the tubular member at a point proximal to the proximal  
15 portion of the inflatable balloon.

12. A balloon catheter as defined in Claim 11, wherein said  
aperture is circular and has a diameter between approximately  
.0005 inches and .0014 inches.

13. A balloon catheter as defined in Claim 12, wherein said  
aperture is circular and has a diameter of approximately 0.0010  
inches.

Suba 14. A balloon catheter as defined in Claim 12, wherein said liquid applied within the lumen of the tubular member exerts a fluid pressure between about 20 psi and 45 psi and thereby causes air to pass through the aperture.

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15. A balloon catheter as defined in Claim 14, wherein said inflatable balloon is placed within a protective tube thereby restricting the ability of the balloon to inflate.

10 16. A balloon catheter as defined in Claim 15, wherein said inflatable balloon is formed of a gas-permeable material.

17. A method of purging air from a balloon catheter which includes a tubular member having a tubular wall and proximal and distal ends; an inflatable balloon having a main body portion and proximal and distal portions extending from said main body portion, said proximal and distal portions each being attached to the tubular member; a syringe coupled to the tubular member for applying a liquid within a lumen of the tubular member, a purge aperture extending through the wall of the tubular member at a point proximal to the proximal portion of the inflatable balloon; wherein the method includes the steps of:

15 20 placing the inflatable balloon within a protective tube to restrict the inflation of the balloon;

removing the protective tube;

allowing any air remaining within the balloon to diffuse  
through the inflated balloon; and,

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